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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,825	03/18/2004	Tomoyuki Okuyama	118516	5904
25944	7590	11/28/2005		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320				
			EXAMINER MACCHIAROLO, PETER J	
			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AKC

Office Action Summary

Application No.

10/802,825

Applicant(s)

OKUYAMA ET AL.

Examiner

Peter J. Macchiarolo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 1-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/05, 7/05, 6/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of group II in the reply filed on 11/14/2005 is acknowledged. The traversal is on the ground(s) that the search would not pose a serious burden on the Examiner. This is not found persuasive since a comprehensive search for group I would not require searching for gigs. The requirement is still deemed proper and is therefore made FINAL.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 10/26/2005, 07/28/2005, 06/14/2005, and 03/18/2004 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

Claim 16 is objected to because of the following informalities: Claim 16 recites an “adhering jig.” The Examiner reads adhering jig. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation, “the conductive paste by repeating the screen process printing a plurality of times,” however this limitation is unclear and there is not proper antecedent basis for the screen process. For the purpose of examination, the Examiner reads the conductive paste is applied via screen printing.

Claim 12 is likewise rejected and interpreted.

The remaining claims are rejected due to their dependency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by

Kuribayashi (USPN 6175345: “Kuribayashi”).

Regarding claim 8, Kuribayashi discloses in figure 7 and column 2, lines 37-60, a method of manufacturing an electro-optical apparatus having a plurality of pixel areas, comprising: forming a plurality of first functional devices (TFT) corresponding to the plurality of pixel areas, respectively, on a first substrate (31); forming a plurality of second functional devices (52) corresponding to the plurality of pixel areas on a second substrate; forming a conductive paste (71) to connect the first functional device and the second functional device on at least one of the first substrate and the second substrate; and adhering the first substrate and the second substrate.

Regarding claim 9, Kuribayashi discloses in figure 7 and column 2, lines 37-60 a method of manufacturing an electro-optical apparatus having a plurality of pixel areas, comprising: forming a device chip (TFT) including one or plurality of first functional devices corresponding to the plurality of pixel areas, respectively, on a first substrate (31); forming a plurality of second functional devices (52) corresponding to the plurality of pixel areas, respectively, on a second substrate (61); forming a conductive paste to connect the device chip and the second functional

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device on at least one of the first substrate and the second substrate; and adhering the first substrate and the second substrate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kuribayashi.

Regarding claim 10, although Kuribayashi is silent to the method further includes forming the conductive paste so as to be thicker than at least one of the first functional device on the first substrate and the second functional device on the second substrate, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the proper size of a component involves only routine skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Furthermore, Kuribayashi infers this configuration in figure 7, wherein the electrically conductive paste (71) is clearly shown to be thicker than the second functional device on the second substrate. One would be motivated to this arrangement for a variety of reasons, including material availability, and operation methods requiring sensitive parameters, such as thermal and electromagnetic interference.

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Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Kuribayashi's conductive paste to be thicker than the first or second functional device.

Regarding claim 11, Kuribayashi discloses in column 10, lines 23-31 that the conductive paste is screen-printed. The above rejection to claim 10 discusses Kuribayashi's teaching of conductive paste thickness, and the reasons for combining and motivation are the same.

Regarding claims 12 and 13, Kuribayashi discloses in column 2, lines 37-60 that the method comprises screen printing, but is silent to a specific a pattern that aligns with a screen mask used in the screen printing process on the first or second substrate.

However using a specific pattern to align with a screen mask is a method known in the art to properly employ screen-printing.

The reasons for motivation and combining are the same as claim 10 above.

Regarding claim 14, Kuribayashi discloses the electro conductive material will be screen printed onto the substrate, which will be adsorbed simultaneously on the substrate surface. The attachment cover is the screen used for printing.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuribayashi in view of Cooper et al (USPN 6517403; "Cooper").

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Regarding claim 15, Kuribayashi is silent to the exact method of aligning the two substrates.

However, using a jig constructed to adjust the position of the first substrate and the second substrate while maintaining the first and second substrates substantially parallel with each other is well known in the art, as evidenced by Cooper at figure 25 and column 12 lines 7 to 57.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to manufacture an EL apparatus with the method of Kuribayashi and by aligning the substrates as taught by Cooper to allow for a precise and accurate manufacturing process yielding an overall reliable EL apparatus.

Regarding claim 16, Cooper shows at figure 25 and column 12 lines 7 to 57 the jig includes at least three micro heads (214) to perform fine adjustment of the positioning, fine adjustment of the relative position between the first substrate and the second substrate being performed by the plurality of micro heads. The reasons for combining and motivation are the same as for claim 15 above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sundahl et al (USPN 6777870) is evidence that optimizing the thickness of conductive paste is a matter of obvious design choice known to those skilled in the art. Tanaka et al (USPN 6567140) is evidence that providing alignment marks on a substrate to for subsequently screen-printing a pattern is known in the art.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375.


The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Handwritten signature of Peter J Macchiarolo, with the initials "pjm" visible below the signature.



Handwritten signature of Joseph Williams, with the printed name "JOSEPH WILLIAMS" and title "PRIMARY EXAMINER" below it.

JOSEPH WILLIAMS
PRIMARY EXAMINER